

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Ronald D. Blum

Application No.: 09/994,860

Filed: November 28, 2001

For: METHOD AND APPARATUS FOR
REDUCING THE INTENSITY OF
HURRICANES AT SEA BY DEEP-
WATER UPWELLING

Customer No.: 20350

Confirmation No. 9812

Examiner: BOECKMANN, Jason J.

Technology Center/Art Unit: 3752

PRE-APPEAL BRIEF REQUEST FOR
REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

This request is being filed with a Notice of Appeal. Review of the December 15, 2009, Final Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

/James E. Golladay/
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Notice of Appeal

REMARKS/ARGUMENTS

All claims stand rejected under 35 U.S.C. §§101 and 112. Applicant has traversed these rejections first by submitting three expert Declarations attesting to the credible utility and enablement of the claimed subject matter, and then by submitting an Information Disclosure Statements (IDSs) with additional references to be considered by the Examiner. All of this evidence submitted by Applicant has yet to be rebutted by any contrary evidence from the Examiner that the claimed subject matter lacks credible utility or is not sufficiently enabled. Applicant therefore requests that the Review Panel withdraw the unfounded rejections as contrary to the overwhelming weight of the evidence of record.

To properly reject a claimed invention under 35 U.S.C. §101, the Office must (A) make a *prima facie* showing that the claimed invention lacks utility and (B) provide a sufficient evidentiary basis for factual assumptions relied upon in establishing the *prima facie* showing... Whenever possible, the examiner should provide documentary evidence regardless of publication date (*e.g.*, scientific or technical journals, excerpts from treatises or books, or U.S. or foreign patents) to support the factual basis for the *prima facie* showing of no specific and substantial credible utility. If documentary evidence is not available, the examiner should specifically explain the scientific basis for his or her factual conclusions. MPEP §2107.02(IV)(emphasis added). The Examiner has not provided any documentary evidence to support the asserted lack of utility and offers only unsupported opinions that are contradicted by the evidence of record. According to MPEP §2107.02(IV), “[i]f the record as a whole would make it more likely than not that the asserted utility of the claimed invention would be considered credible by a person of ordinary skill in the art, the Office cannot maintain the rejection.” Applicant respectfully submits that, given the evidence of record, including the new independent references provided, a person of ordinary skill in the art is “more likely than not” to consider the asserted utility of the claimed invention credible.

Likewise, the description of the claimed subject matter is sufficient for one of ordinary skill in the art to practice the invention without undue experimentation. The Office Action presupposes that one of skill in the art would not know how to use the claimed invention based on the asserted lack of credible utility for the invention, and appears to consider the scale of the

invention to make it *per se* not enabled. This is not the legal standard for enablement, which requires only that the subject matter is described sufficiently to practice the invention without undue experimentation. In this regard, the amount of experimentation to practice the full scope of the claimed invention is not dispositive. *See, e.g., Ex parte Kubin*, 83 USPQ2d 1410 (Bd. Pat. App. & Int. 2007), *citing Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1360, 47 USPQ2d 1705, 1719 (Fed. Cir. 1998). Applicant maintains that, as supported by the evidence of record, the disclosure provides sufficient direction and guidance to enable one skilled in art to implement the invention in a straight forward manner using technology that existed prior to 2001, as evidenced in the Rule 132 Declarations.

Thus, the Office Action fails to adequately support the asserted lack of utility, and then improperly bootstraps this conclusion in an erroneous enablement analysis. As argued previously, and outlined below, the evidence of record establishes that one of ordinary skill in the art would view the claims as credible, and that the claimed subject matter is sufficiently enabled.

The specification describes how hurricane intensity reduction may be achieved through combinations of (1) submersibles to generate bubble plumes, (2) the upwelling of cold water by the bubble plumes, and (3) the resultant cooling of the ocean surface in the vicinity of the hurricane. The Declarations provide unrebutted support showing that each of the elements is enabled by the specification, from an expert having expertise related to each particular element. The Declarations taken together provide ample and unrebutted evidence that the claimed subject matter is enabled by the specification and is based on accepted scientific principles.

Moreover, the September 3, 2009 IDS identified sixteen published applications and patents, along with thirteen publications including peer-reviewed articles, related to recent weather, and hurricane, modification techniques. The remarks of the September 3, 2009 Amendment specifically describe how the references submitted to the Patent Office in the IDS demonstrate, through multiple independent and respected scientific sources, that hurricane mitigation is possible, and how the claimed subject matter would be viewed as credible by those of skill in the art. The remarks further rebut each of the premises asserted in the July 24, 2008 Final Rejection, with exemplary reference to the disclosed materials. Despite this new evidence, and extensive supporting arguments, bolstering the conclusions of the previously submitted

expert Declarations and claimed subject matter, the Response to Arguments in the revised First Action Final Rejection mailed December 15, 2009 states, in its entirety:

Applicant's arguments filed 9/3/2009 have been fully considered but they are not persuasive.

Regarding the applicant's arguments concerning the 35 U.S.C. 101 and 112 1st paragraph rejections, the applicant uses various prior U.S. applications and U.S. patents to support and justify that the present invention meets the requirements of 35 U.S.C. 101 and 112 1st paragraph. However, the examiner is not at liberty to comment on the previous work of other examiners or the Patent office as a whole.

The December 15, 2009 Office Action fails to adequately consider the arguments and information submitted by applicants in support of the RCE. In this regard, the Office is required to consider this information on the basis of the properly filed IDS and RCE, and, moreover, Applicant is entitled to a reasonable opportunity to respond to any rebuttal by the Examiner.

First, the Office Action does not address the credibility of the sixteen published applications and patents, or the thirteen publications, at all. Thus, the Office Action has not apparently considered the information submitted by the Applicant, as required by the MPEP. This is particularly inappropriate in the context of the current 101 and 112 rejections, in which the Examiner broadly asserts, without evidentiary support, not only that the claimed subject matter lacks credible utility, but also that the sworn Declarations of three experts in support of the claims are insufficient.

Applicant has submitted relevant evidence including materials describing, for example, a wave-driven ocean upwelling system by Atmocean, Inc.TM. The system is located in the open ocean, *i.e.*, hundreds of miles from land, and functions to pump deep ocean water to the ocean surface thereby cooling the upper ocean (Cite No. BF-BL). The upwelling system may be used to downsize hurricanes. Specifically, mathematical modeling outlining the placement of the upwelling arrays at a certain depth and location shows the lowering of the upper ocean temperature by a few degrees C, thereby reducing winds by up to 15% and reducing the overall damages by up to 40%. Additional materials were submitted describing methods for reducing hurricane intensity that have been published in peer-reviewed journals that provide clear scientific support related to the credible utility and operation of the claimed invention. For example, Rosenfield et al. provides evidence that particular methods that cool the environment

surrounding a hurricane, *i.e.*, seeding-induced evaporative cooling, can reduce the overall strength of a hurricane. [page 3421, Cite No. BN] Additionally, LaRosa describes suppression of hurricane intensity, and even the possibility of preventing hurricanes, by reducing sea surface temperature. These references are relevant to the 101 and 112 rejections of record, and should be considered in a non-final rejection.

Second, without any articulated response to the references and remarks by Applicant, there is no reasonable opportunity for Applicant to frame a meaningful response to the rejection. The remarks of the September 3, 2009 Amendment specifically describe how Applicant believes the references submitted to the Patent Office in the IDS demonstrate, contrary to the assertion of the Final Rejection, that hurricane mitigation is possible, and how the claimed subject matter would be viewed as credible by those of skill in the art. The non-response that “the examiner is not at liberty to comment on the previous work of other examiners or the Patent office as a whole” does not even attempt to address the non-patent publications that Applicant submitted. Thus, Applicant is unsure how the Examiner is justifying disregarding the relevance of these references with respect to whether one of ordinary skill in the art would have believed that the claimed subject matter has credible utility. Moreover, Applicant submits that the work of the “Patent office as a whole” is certainly relevant to the credible utility of an application, and cannot simply be ignored by an examiner employed by the Office.

Applicant maintains all of the arguments that have been made of record in Applicant’s Appeal Brief, Reply Brief, and Amendments regarding the credible utility and enablement of the claimed subject matter, and briefly summarizes those arguments below for the Review Panel’s consideration due to the page limitations for this brief.

With regard to the §101 rejection, MPEP §2107.02(III)(B) states that, where an applicant has specifically asserted that an invention has a particular utility, that assertion cannot simply be dismissed by Office personnel as being “wrong,” even when there may be reason to believe that the assertion is not entirely accurate. An assertion of utility is credible unless (A) the logic underlying the assertion is seriously flawed, or (B) the facts upon which the assertion is based are inconsistent with the logic underlying the assertion. The Office Action has not challenged the logic underlying Applicant’s assertions, or explained how any facts are inconsistent with the

logic underlying the assertion. Therefore, under the MPEP, Applicant's assertion should be accepted as credible.

The Office Action apparently relies on *Brenner v. Manson*, 148 USPQ 689 (U.S. 1966), in support of the claim that the present subject matter lacks credible utility. However, *Brenner* addressed a situation in which a new method for producing a chemical composition was found to lack utility because there was no demonstrated use for the chemical composition. *Brenner* at 695. On the contrary, the present subject matter is directed to methods for reducing the intensity of hurricanes. This objective is obviously and unquestionably "useful" within the context of *Brenner*.

The relevant standard for inoperability "applies primarily to claims with impossible limitations." *CFMT v. Yieldup*, 68 USPQ 2d 1940, 1944 (Fed. Cir. 2003). As demonstrated by the evidence of record, the present subject matter is not analogous to inoperable inventions with "impossible limitations."

The standard for determining whether the specification meets the enablement requirement may be determined by asking whether an undue or unreasonable amount of experimentation is required make and/or use the claimed invention. The ultimate determination must be made by *weighing all of the evidence*, including evidence subsequently submitted by the Applicant. The determination should never be made based on personal opinion. MPEP §2164.05. Applicant maintains that the Examiner has clearly not weighed all the evidence regarding whether the claimed subject matter is adequately enabled at least because there is no indication that the additional evidence submitted by Applicant has been considered by the Examiner in evaluating the utility and scope of the claimed subject matter. Applicant respectfully asserts that evidence previously provided, including three Declarations from experts, and as discussed in the Appeal Brief at pages 22-32 and in the Reply Brief at pages 11-13, establish sufficient enablement for those of skill in the art.

In view of the foregoing, Applicant requests that the Review Panel review the substance of the December 15, 2009 Final Rejection, and that the rejections under 35 U.S.C. §§101 and 112 be withdrawn.